

1. INTRODUCTION: THE RENEWAL OF HARBOUR AREAS AS A TERRITORY OF THE POST-INDUSTRIAL CITY.

If we could define a spatial process, which specifically occurs at the post-industrial city, the urban renewal of harbour areas would certainly be one of the nominated.

The globalisation phenomenon, recently analysed by several authors such as Manuel Castells and Saskia Sassen, has several territorial consequences, occurring simultaneously at the local, regional and global levels [Borja, Castells].

Regional/international phenomenon as the network urbanism, the “metapolitisation” of towns [Ascher] and the global cities [Sassen], occurs simultaneously to local phenomenon as the urban regeneration and the historical city centres qualification.

Territorial models are developed, such as the polinuclear urban networks, e.g. the Randstadt; conceptual settlement patterns are proposed, such as the Mitchell’s e-topia.

The informational city elects the public (social) space as one of its main priorities – the physic space of social interaction by excellence, complementary to the virtual space.

Multifunctional and intensive use of spaces is another priority for the future, providing efficiency and sustainability to the cities [Costa], although some indicators announce a tendency for the urban sprawl, being the dominant post-industrial landscape in some parts of the world [Dunham-Jones].

The urban renewal of harbour areas takes part on this complex and multi-faced phenomenon; it is a local/regional/global process, reflecting the contemporary aspects of the economy and town planning.

Local, attending to the specific circumstances, which occur in each operation, such as the local town planning management, the urban actors involved, the site characteristics, urban integration, local climate, and others.

Regional, attending to the dimension of the hinterland of harbour areas, to the scale of influence of some infrastructures, equipments, and waterfront public space, to the high level of investment required, and others.

Global, because being each case a single case, the operations of renewal of harbour areas are a phenomenon which occurs all around the world, having in common its economical context, identical town planning problems and types of answers for urban design, usually being key interventions for cities with special finance and intellectual investments.

**The new waterfront:
segregated space or
urban integration?
Levels of urban
integration and
factors of integration
in some operations
of renewal of
harbour areas.**

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2. THE RENEWAL OF HARBOUR AREAS AND THE CITY.

LEVELS OF URBAN INTEGRATION IN THE RENEWAL OF HARBOUR AREAS: THE TOWN INTEGRATION AND THE SITE INTEGRATION; THE FACTORS OF INTEGRATION.

Being each case a single case (resulting from local and regional phenomenon), some common characteristics can be observed in the operations of renewal of harbour areas.

One of the pertinent questions that can be asked to these operations results from the possible relations between the existing city and its new urban area:

Which type of relation exists between those new urban areas and the cities?

Which type of relation exists between those renewal operations and the planning of cities?

Whose factors define urban integration or spatial segregation in those operations?

Are these renewal operations producing a new segregated part of town, or are they in fact creating a new part of the city, integrated: (1) in the city as a whole and in the larger goals of its planning, and; (2) with its confining urban tissues?

The form of this last question is intentional and advances the thesis this paper wants to clarify: it should be considered two scales of urban relations in the analysis of the integration/segregation in those operations.

The thesis this paper developed is that there are two levels of analysis, which I would nominate as “TOWN INTEGRATION” and “SITE INTEGRATION”, referring to the Sir Raymond Unwin two levels of the town planning [Town Planning in Practice, 1909]: the “town planning” and the “site planning”.

The town integration would be, therefore, the higher or lower integration of an operation of renewal of a harbour area in the planning of a city, e.g., being part of its strategic and physical planning, being articulated with the urban management of the city, answering to some specific urban goals for the city, etc...

The site integration would be the higher or lower integration of an operation of renewal of a harbour area in the confining urban tissues, e.g., having continuity in the main public spaces with the same quality of design, suppressing urban barriers, articulating urban functions, offering some new equipments to the existing confining urban areas, etc...

Site integration refers at a first level to physical planning and to public space projects, but it also means the integration of those populations in a new urban reality, not only through the possible physical benefits of their neighbourhood, but also by inducting new employment and new opportunities for social interaction.

As an example, an operation of renewal of a harbour area could be integrated in the strategic and physical planning of the city and articulated with general infrastructure investments, being a strategic “star action” of urban development, but simultaneously segregated from the confining urban areas, being the limits of the area of intervention a frontier between high re-qualified town and old unqualified urban areas.

Or, on the contrary, it could be an isolated urban action, managed, e.g., by an autonomous port authority, having only occasional coordination with the municipality, but simultaneously attempting for

site integration by suppressing urban barriers and extending new public space into the existing urban areas.

As a hypothesis, site integration can be a previously defined strategic goal for the renewal operation, between others, as an action of town integration – it doesn't mean that the final result would achieve it.

Town integration and site integration can be object of analysis both: (1) at the planning stage, when the operation is being conceived and its projects developed, and; (2) on the territory, when the operation is realised and finished; meaning that the object of analysis is the plans or the new physical reality.

Although considering that each operation of renewal of a harbour area is a single case, some common phenomenon occur in both scales of analysis, at the town integration level and site integration level.

Based on comparative analysis, some factors might be identified as key factors in the occurrence or not of town integration and site integration, which I would denominate as **FACTORS OF INTEGRATION**.

The factors of integration are those frequent occurrences in the operations of renewal of harbour areas that contribute to its urban integration, separately at the town integration and at the site integration, and which, when not occurring, contribute to the physical segregation of those new urban spaces.

The question is, therefore:

Which occurrences should be established as the factors of town integration?

Which occurrences should be established as the factors of site integration?

Separately, both at town integration and at the site integration levels, the next lines will analyse some operations of renewal of harbour areas, trying to identify: (1) which are the common relevant factors of integration, and; (2) which are specific factors in a single operation that do not occur on the others.

The criteria for the selection of the operations results exclusively from the data material available by the author and from the knowledge of the selected operations, assuming that some important operations weren't object of analysis and, therefore, the elected factors could have slightness variations.

The field of analysis includes operations of renewal of harbour areas, some realised, some being done and others still in plan.

These case-study operations are: (1) the Expo98 area, in Lisbon, realised; (2) the 1998 Margueira plan for urban renewal, in south Lisbon; (3) the Marseille Euroméditerranée urban project; (4) the Kop van Zuid operation, in Rotterdam, in course; (5) the Eastern Docklands operation, in Amsterdam, in course; (6) the Canary Wharf operation, in London, in course; (7) the Western Docklands operation, in Helsinki, partially realised – phase 1 of 3; (8) the Aker Brygge operation, in Oslo, realised; (9) the Bjorvika operation, in Oslo, being planned; (10) the New Victoria's Waterfront, in Melbourne, just started; (11) the Lu Jia Zui, in Shanghai, in course; (12) the Bund, in Shanghai, done; (13) South Boston, being planned, and; (14) the Port Vell operation, in Barcelona, done.

3. THE FACTORS OF TOWN INTEGRATION.

3.1. *THE RENEWAL OF HARBOUR AREAS AND THE PLANNING OF CITIES: SOME PERSPECTIVES.*

Apart from the case-study analysis, some key bibliography on the renewal of harbour areas covers the relation between the cities and those operations, justifying therefore its over viewing in these lines.

The survey of Han Meyer [City and Port, 1999] on operations of renewal of harbour areas in New York, Barcelona, London and Rotterdam clarifies the relation between: (1) the local and regional context, the relation between the cities and the ports, and specific aspects on the urban management of the operations, and; (2) the election of different priorities on its urban design, consequently on the physical form of those new areas.

Meyer analyses town planning in those four cities, evaluating the links with the operations of renewal of harbour areas, some visionary, some previous ideas and some at last realized or in course.

He addresses the question of “the degree to which, and the manner in which, urban planners are accountable for the cultural significance of the design and redesign of infrastructural works (...): sea-ports. Four types of port cities are featured (...). Each type is characterized by specific special form of the relation between the city and the port, and by a specific cultural appreciation of this form” [pp.9].

Meyer concludes that urbanizing infrastructure is an urban design project.

He notices the problem of the confrontations and relations among various levels of scales, and suggests complementarities among the large-scale networks and the local urban networks.

To solve this problem, he suggest to look at it as a project, “the objective of which is to solve the problem or at least to find an acceptable response. Such a project can be worked as follows: ‘Design large-scale infrastructure in such a way that the local situation thus created leaves the function of the infrastructure itself intact and, at the same time, lends added value to the immediate urban context’” [pp.382].

Joan Busquets [Anvers, Barcelone et Buenos-Aires: quand les villes s’occupent de leur ports, 1992; Planeamiento: Pasado reciente y futuro próximo, 1995] emphasis the characteristic of those operations, being unique opportunities for coordination of different interventions such as new infrastructures (main road accessibilities, bridges, etc., frequently with special investment on its urban design), public transport systems (regional train, subway railroads, light train), new urban equipments (profiting from the special location in the waterfront of the city, sometimes also near the historical centre), urban infrastructures (projected and constructed in a coordinated form), green structures, and others.

Those operations justify the coordination of all those different urban actions in a unitary urban project for the area and its extensions to the city; different urban management entities integrating the process.

The importance of those operations in the planning of cities is demonstrated, being key interventions in strategic urban areas, frequently associated with the realizations of special international events.

Busquets understands that the several scales of planning can exist complementary to the «proyecto urbano», in a philosophy of concurrence of scales and operative compromises.

The «proyectos especiales» are “forms of urban planning articulation, capable of integrate specific infrastructures with a general urban vision” [1995, pp.15], frequently “produced trough «strategies» or «labels» which motivate its status of special” [1995, pp.16].

Richard Marshal [Waterfronts in Post-Industrial Cities, 2001] identifies the new waterfronts as spaces of hope for urban vitality, where we can see “new city-making paradigms, partial visions for what our cities might be” [pp.3], in a general context of cities resulting less from design and more from the expression of economic and social forces.

Marshal tries to confront not only the success, but mainly the challenges faced by cities such as Amsterdam, Genoa, Sydney and Vancouver in their revitalization efforts with emerging city operations in Bilbao, Havana, Las Palmas and Shanghai; San Francisco and Boston are also examples of comparison.

The analysis focuses on the role of the renewal operations in the context of the city planning: how does each one is related to the city, specific aspects of each operation and its understanding of what should be a waterfront space, models developed and its role in the development of the city.

By Classifying those operations according to four mediations – “connection to the waterfront”, “remaking the image of the city”, “port and city relations”, and “new waterfronts on historical cities” -, Marshal elects some particular aspects of these operations.

Marshal's comparative analysis accentuates the differences in the planning support of each operation (its origin and urban context); different management processes and local site characteristics take part both (1) in the definition of different urban models and physical forms, and; (2) in the relation between the cities and its new urban waterfronts.

Joaquin Casariego [Waterfronts de Nuevo, 1999], as Han Meyer, departures to a comparative analysis of some operations with the goal of clarify concepts and ideas, in order to suport their planning activities in Las Palmas de Gran Canaria and Rotterdam.

Synthesising the role of the water in the history of the cities and the economical and logistical transformations of port activities since the 1960's, Casariego focuses on middle size cities waterfront transformations, trying to identify processes, planning forms and implementation, main priorities, context and urban design concepts.

Different classes are established, such as: (1) the “re-conversion / re-adaptation of ports”, based on the operations of Hamburg and Marseille; (2) the “re-encounter of the city and the sea”, based on the experiences of Boston and Barcelona; (3) the “centralities by the water”, cases of Yokohama and Rotterdam, and; (4) “from the sea front to the theme park”, cases of Baltimore and Seville.

Lessons of waterfront transformation are achieved to middle size cities.

Having several contributions, Cities in Transition [AA.VV, 010 Publishers, 2001] deals with the effect of globalisation focusing on the relation of urban and port developments in the cities of Rotterdam and Tokyo.

Based on the two cases, a duality on the contemporary relation between city and port is established, being an integrated planning the answer for the harmonious development of both.



Aerial views of four case-studies before the renewal operation: Amsterdam Eastern Docklands, Melbourne Interior Harbour, the LuJiaZui District in Shanghai and South-Boston.



A perspective of time and of the evolution of contexts, of the ports activity and of the cities needs and tendencies is accentuated in this relation, understood as a dynamic process.

Referring to our days, Kreukels notes that, “as in many cities nowadays, in Rotterdam the master plan was no longer the most decisive vehicle of urban planning; (...) the development of the city is now guided by strategic projects and plans for particular areas and locations.” [pp.57], the renewal of harbour areas included.

A relation between the management processes of those operations and town integration might be established, accentuating the perspective of Joan Busquets of these operations as opportunities for co-ordination of different interventions.

3.2. FACTORS OF TOWN INTEGRATION IN SOME CASE-STUDIES.

As we saw, town integration is subject of several expertise publications, which define the main occurrences in specific operations and in general theory of renewal of harbour areas, therefore approximately defining the factors of town integration.

The observation of some operations of urban renewal of harbour areas was the form achieved to identify those general factors of town integration; the same method will be developed in the next lines, confirming and synthesising most of the defined factors, although some exceptional or specifically local factors might also exist in each operation.

(1) - The operation of renewal of the Expo98 area, in Lisbon has been developed concerning some aspects of town integration.

From the first steps of its town planning, the exhibition was understood as a main opportunity to give new impulse to city development and to create new high quality new urban areas in the east part of Lisbon.

Having been developed as a special territory, by a development corporation of public capitals, a coordination process occurred with the municipality.

The area become a special planning area in the municipal plan of Lisbon, in which infrastructure investments and detail plans for surrounding the areas were predicted, although the limits of the intervention marked a rigorous limit of planning jurisdiction.

Some city infrastructures were developed in the context of the Exhibition such as road accessibilities, public transport systems and equipments; others, as the new bridge over the river, can't be integrated in the operation, although it benefited from the construction dynamic of the period.

As factors of town integration in the Expo98 renewal operation can be elected the following:

- (a) The criteria for the selection of the site to the exhibition, in an old industrial/harbour area in the east limit of the city (other sites were also hypothesis), as a measure to compensate the constant city development to west and to north and to try to induce new development opportunities in the east part of the city, through the creation of new tendencies and basic infrastructures – a profound and intentional town integration measure;
- (b) The several plans developed during the previous 10 years, in which town integration ideas were proposed, some adopted in

the final proposal.

(c) The inclusion of the area of intervention in the Master Plan of Lisbon from 1994, in which infrastructure investments and the planning of the existing urban areas in its surroundings were previewed, although the area itself were excluded from the municipal responsibility – it was a special development area, developed by an independent development corporation;

(d) The articulation of different forms of urban planning, by different urban management companies, integrating specific infrastructures, such as the underground city railroad, the metropolitan train, the infrastructures supply companies, the municipality, the development corporation and others, in a general urban vision;

(2) - The 1998 experimental plan for the renewal of the harbour area of the Lisnave Company [by Architects Carlos and Cristina Ramos, Dias Coelho, João Pedro Costa], in the south part of Lisbon, is an example of absolute inexistent town integration in a proposal for the renewal of a harbour area.

Although the authors of the plan had suggested to the proprietary of the lands (a public capitals company in the Ministry of Finances) its articulation with several entities, such as the Municipalities of Almada and Lisbon, the Lisbon Port Authority, public transportation companies, regional coordination administration, and others, in order to generate compromises and to give to the plan an operative character, the Administration adopted (and still adopts) an isolated perspective, against the other urban actors, unacceptable in town planning and which conducts to the ineffectiveness of any proposal.

Infrastructure integration, accessibilities, public transport systems, integration in the surrounding urban areas, and the compromise question itself of the vocation of those lands, which should be participated by the populations, represented through the municipalities, associations and public companies, weren't considered, generating justified public reaction to the later proposals [1999, 2001, both by Arch. Graça Dias] and its ineffectiveness.

This example shows that, in democratic countries, the question shouldn't be have or not have town integration; the variation concerns the forms and types of town integration developed in each operation and its effectiveness, defining both its operative character and the quality of the resulting urban spaces.

(3) - The Marseille Euroméditerranée is not an operation of renewal of an harbour area; it is a transversal urban project from the Eastern Port to the Gare de St. Charles and to the Belle-de-Mai area, structured through autonomous operations articulated in a general goal for the city transformation.

It is a coordinated action of several urban projects, some located in the eastern harbour territories, such as: (1) the road infrastructure transformation in the Littoral, through the construction of a tunnel, articulated with the ZAC de la Joliette; (2) the train tunnel and the investment on new public services in Arenc, and; (3) the public spaced intervention Espace Saint-Jean, a first waterfront intervention in released harbour cays on the eastern harbour.

Its isn't, therefore, a typical operation in old harbour areas, being an urban project with specifically located measures covering some harbour areas, the central station, old neighbourhoods having social problems, public services, heritage buildings, and others, in an integrated form.

The Littoral operation, the Arenc operation, the ZAC de la Joliette and the Espace Saint-Jean operation aren't isolated interventions; they are part of a general integrated urban vision of urban design, which isn't anymore the typical Master Plan of a city.

The Marseille Euroméditerranée is an operative and coordinate group of «proyectos urbanos», which combines different scales and urban management entities in a global idea for the city.

The question doesn't concern, therefore, the town integration of a renewal operation of an harbour area; town integration is a base premise of a coordinated urban design programme, understood as a key operative action for the modernization of Marseille, complementary to regulative city Master Plan.

(4) - In the Kop van Zuid operation, in Rotterdam, the possible renewal intervention was debated during large periods of time, progressively achieving new ideas until it gets the final plan form.

Examples were: (1) the debate to renovate the city to the west (Delfshaven Buitendijks) or to south on the former harbour lands (Kop van Zuid); (2) the AIR – Architecture International Rotterdam event on the Kop van Zuid area, in 1982, with urban design proposals by Aldo Rossi, Josef Kleihues, Oswald Mathias Ungers and Derek Walker, and the debate on urban form in the context of its initiatives; (3) the Carel Weeber Peperklip experimental housing complex, in 1981, on Kop van Zuid; (4) the society's desire for innovation in the late 1980's, when several "government reports, books, and conferences included the adjective 'new': The New Rotterdam, Renewal of Rotterdam, and so on" [Meyer, 1999, pp.352]; (5) and others.

The Kop van Zuid operation is developed simultaneously to the new concept of port centrality in the Maasvlakte area and its integration in the urban and natural landscapes, in a perspective of coordination between city and port, characteristic of town planning in Rotterdam.

The port itself was represented in the Kop van Zuid plan (first plan by Teun Koolhaas, 1987), through a new nautical centre, its new headquarters and a cruise terminal.

"The plan for the Kop van Zuid was one example of a renewed search for a mutual relationship uniting city, river and port. It represented an attempt to awaken the city's awareness of the river and the port. Other examples of this renewed pursuit were new plans for Botlek, Europoort, and the Maas Plain: the modern, working area of the port." [Han Meyer, 1999, pp.371].

In Kop van Zuid, the town integration is a culture, results from the local philosophy of town planning under which city and port are managed together as part of human activity on the territory. The form of management of city and port and the development of the renewal operations by the Department of Urban Planning

and Public Housing are the basis of this form of town integration, allowing for effective and coordinate planning and action independently from specific infrastructure and urban design measures.

The understanding of the renewal operation as an opportunity: (1) to connect the city to its south neighbourhoods; (2) to transfer the new centrality to the river, creating new offices in the Wilhelminapier; (3) to continue its cultural politic, and; (4) to mark the new centrality with an art object – the Erasmus bridge; is a second factor of town integration, although it results directly from the urban management model of Rotterdam, allowing for an integrated planning of the city as a whole.

(5) - The redevelopment of the Amsterdam's Eastern Docklands takes place between the first municipal resolutions of 1975 and the 2000's, being a renewal operation based on separated interventions on different peninsulas and islands, each one with specific premises of urban design.

"The basis of all the plans is that new building development should distinctly respond to the specific character of the former harbour area.

Because in practice this amounts to a completely different 'personal' interpretation for each peninsula, the transformation of the former harbour area has turned out to be a sort of laboratory in the field of urban development and architecture." [Eastern Docklands, 1995, pp.9].

Again, as in Rotterdam, the renewal operation is managed by the city, through the Department of Physical Planning, being this form of urban management the basis for the understanding of the operation as a part of the city, therefore being a key factor of town integration.

The assuming of the new urban areas as an extension of the city's urban fabric and the assuming of the opportunity for urban and housing experimentation on the compact city are also factors of town integration, meaning the conceiving of the new district in a city perspective.

Being located near the central station, the new mainly residential district has no continuity to other urban areas, maintaining its character of harbour peninsulas.

(6) The Canary Wharf operation, in London, started in the middle 1980's, although some proposals exist to the area since 1970/73 (e.g., proposals in 1973, or the 1976's 'London Docklands Strategic Plan', both mainly residential proposals), after the sudden disappearance of the big shipping companies from the area, leaving the gigantic docks vacant behind.

After some evolution of the renewal concepts to be applied to the London Docklands, the key occurrence was the changing of the Government to the Conservative Party in 1980, changing not only the substance of the plan itself, but also the methods and the decision-making, being created in 1981 the London Docklands Development Corporation.

Four different special strategies occurred from 1981 to 1995: (1) a balanced urban planning concept to the entire Docklands, from 1981 to 1983, which failed; (2) an urban plan restricted to the scale of an enclave – the Enterprise zones; (3) the development of a new centrality to London – Canary Wharf, and; (4) A posteriori

urban planning, from 1994 to 1998, after the debacle of Canary Wharf. [Meyer, 1999, pp.98-110]

This was the general context of the Canary Wharf operation, developed by the Canadian real-estate developers Olympia & York, since 1986, based on the master plan by Skidmore, Owings and Merrill.

The proposal understands the new centrality as an autonomous enclave, being the main criteria of design market criteria and the creation of a public realm.

The isolated situation of Canary Wharf together with the insufficient capacity of the Docklands Light Railway and the occurrence of a period of uncertainty in the real state marked lead to the bankrupt of Olympia & York in 1992.

It is very difficult to identify factors of urban integration in the Canary Wharf operation.

Although the Docklands renewal operation has been progressively conceived since the 1970's, the fact is that the developed philosophy brooked the first 10 years of debate, introducing new methods and processes, which lead to a different urban planning, therefore having no continuity.

The pre-existent road infrastructures and light railroad weren't conceived as part of such a huge operation, and the concept itself of Canary Wharf was to be an autonomous area, having no relation to the city except the concurrence with the city's offices real-state market.

The process of development, based on 'urban development areas', referring to the New Town Act of 1946, managed by Urban Development Corporations directly dependent of the Government and resistant to outside influence, and the transfer to a real-state private enterprise of the entire operation didn't allow for participation by the city and its citizens.

Urban integration was an insignificant value in comparison with the real-state goals of the operation, although the main objective of the LDDC was being full field: the creation of a new offices centrality in London.

(7) - The Western Docklands operation, in Helsinki, partially realised (the Ruoholahti area is finished, corresponding to phase 1 of 3), is previewed in the Master Plan of Helsinki from 1992, being considered both in the 'Strategic Planning Advice' and in the 'Master Plan'.

The Master Plan previews a 3 phases operation, corresponding to the areas of Ruoholahti, Jatkasaari, and Munkkisaari, the three land areas conquered to the sea for harbour use, which is progressively being transferred to the new peripheral zone of Vuosaari.

The three phases were staged over time in four periods: until 2001, 2001-2010, 2011-2020 and after 2021, being the programme essentially residential, including an area of expansion of the central business district and a new car-ferry passenger terminal.

The Helsinki's Western Docklands renewal operation is an example of harmonious town integration, being defined in the general planning as a part of the city and developed through specific master plans for the three areas of intervention.

Its general definition in the Master Plan of the city, resulting from a global overview of the city development instead of being an

isolated or casual action is the main factor of town integration in this operation.

This articulation with the general planning of the city defined the programme of the intervention as part of the general conception of the city, being a rare example of success of planning in a 'cascade of plans', from the upper level to the lowest level.

The main infrastructures already existed, so they didn't take part in the operation.

(8) The Aker Brygge operation, in Oslo, a shipyard area abandoned in 1982 at the Pipervika bay, was initially previewed to be realised in three stages, which occurred respectively in 1984, 1989 and 1991; during the 1990's the area was completed with a fourth group of constructions in its west part.

The area was owned by the Aker Group of Companies, which developed the operation, although it also benefited from public investment in the surroundings, such as the road-tunnel construction in the Pipervika bay, allowing for the City Hall Square to be entirely free of motor traffic and immediately connected to Aker Brygge, since 1994.

The process of development of the operation was regulated by on the Norwegian Planning and Building Act, which is based on the idea that both private and different public interests have the right to propose new local development plans.

It was based on this Act that, in 1982, on the initiative of private property owners and public authorities was launched the ideas competition "The City and the Fjord, Oslo year 2000", which consisted on a general plan for the whole waterfront of the city and a detail plan for Aker Brygge.

About 170 proposals were delivered; in the winner proposal Aker Brygge and the West Railway Station were proposed for urban development, and the motorway across the City Hall was proposed to be laid in a tunnel and the City Square to become a leisure pedestrian area – as it was done later in 1994.

The Area Plan for Oslo's Central Waterfront passed political approval in 1988, being the first legal area plan, which arranges the relationship between the city and the fjord.

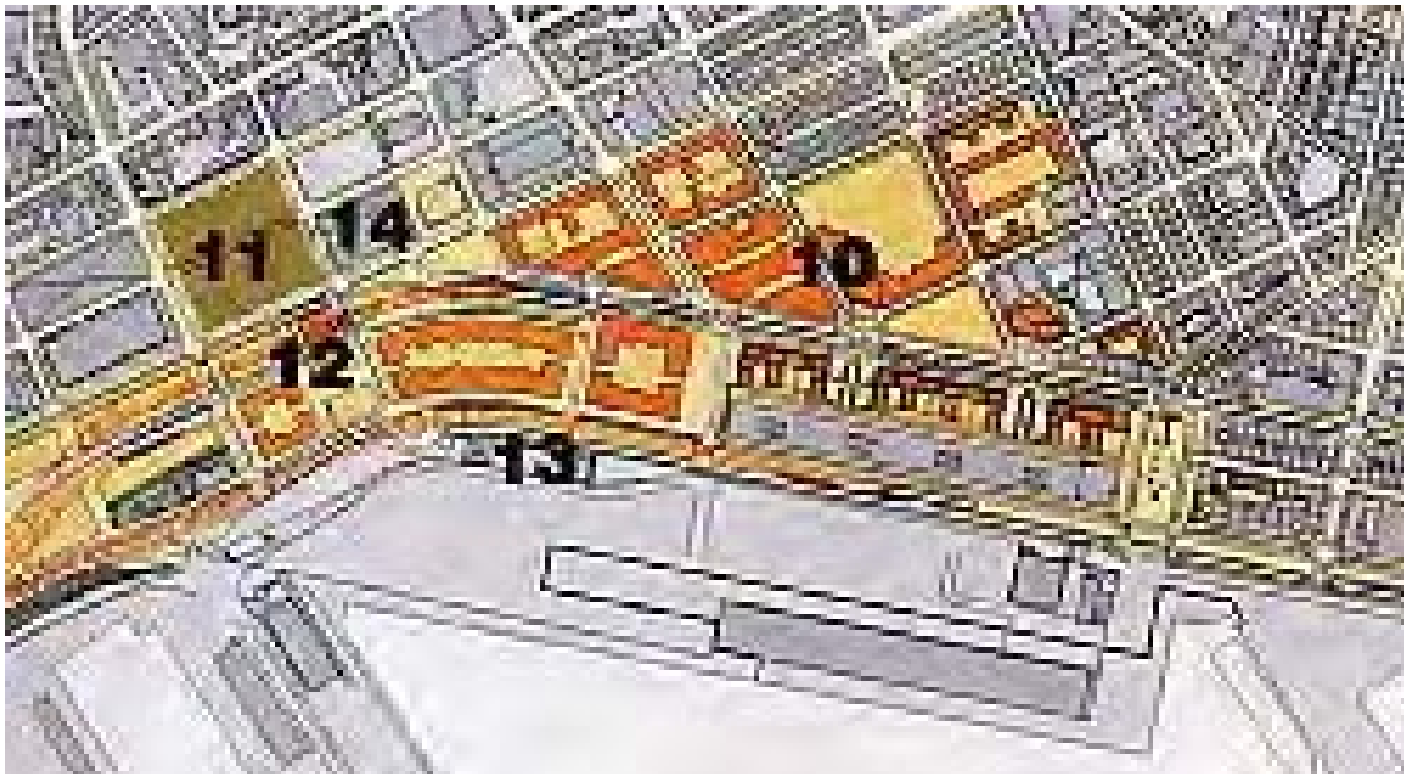
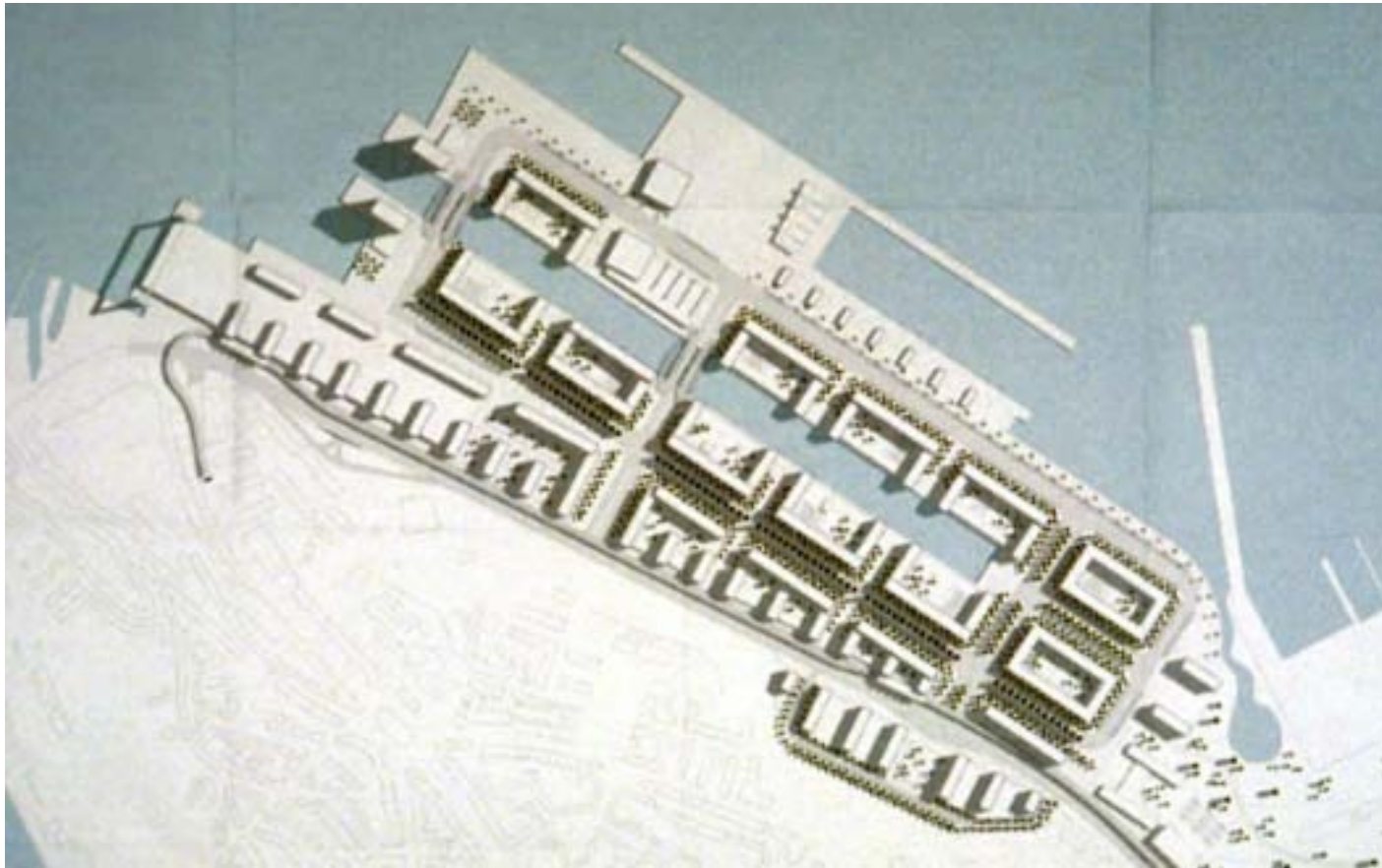
The urban design concept for the Aker Brygge area was to develop a complete district, which would be shaped as a compact traditional urban area with modern architecture, where streets and squares were coordinated in such a way that outdoor spaces were activated by pedestrians.

The programme combined offices, shopping centres, boutiques, restaurants and cultural attractions with apartments on the upper floors, linked together with a system of aerial passages.

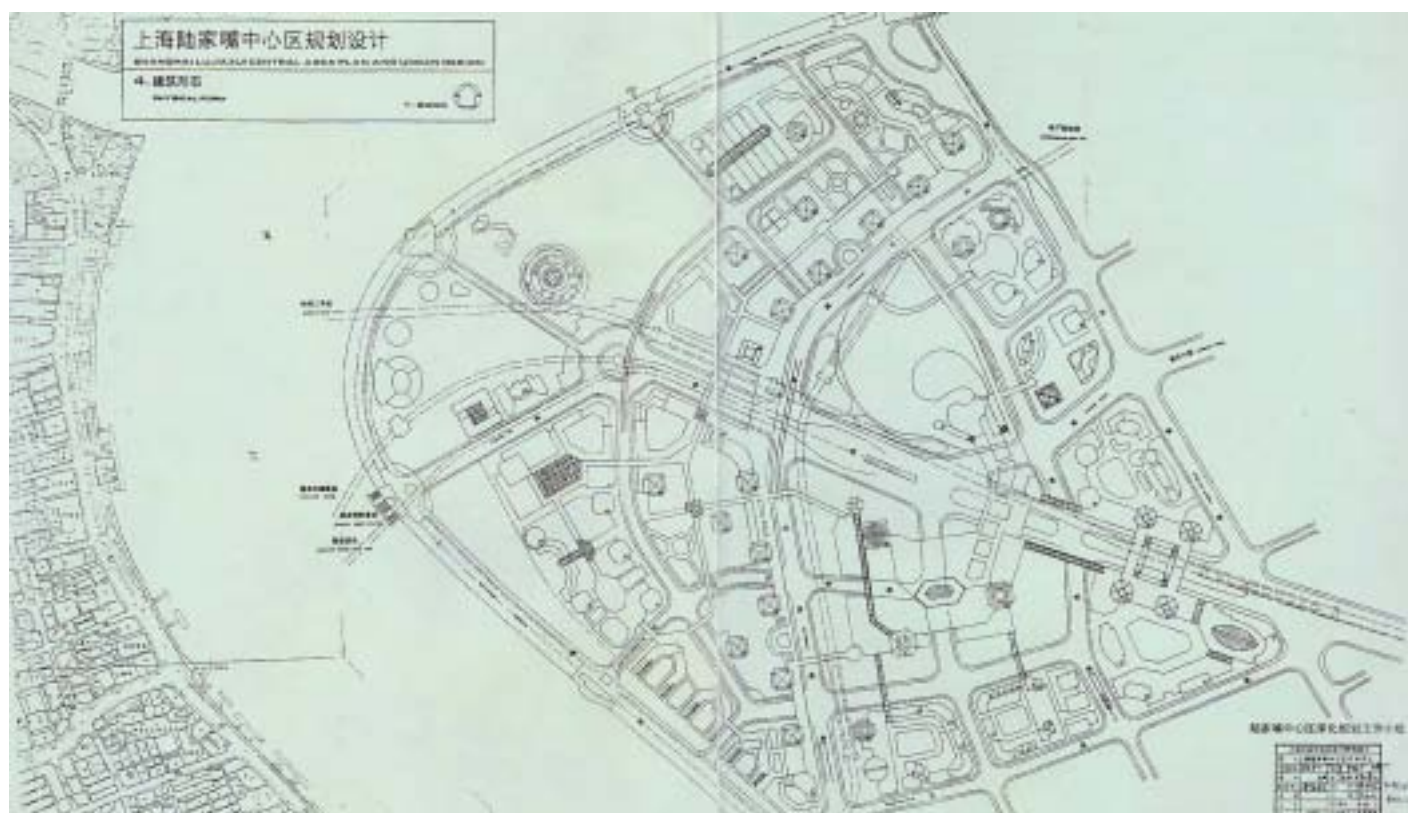
The participative process of private investment, debated in the society and coordinated with complementary public investment is a key factor of town integration in the Aker Brygge operation. Although being developed on private ownership lands and financed with private investments, its planning was participated by the society and approved by the city, in a efficient democratic process.

It was this process that allowed for the coordination of other public interventions such as the road-tunnel, the tramline, or the public space in the City Hall Square.

Those were city's main infrastructures which helped on the suc-



Plans for the renewal operation of four case-studies: a previous plan for the Margueira Lands in South Lisbon, the plan for the ZAC de la Joliette and Docklands in the Marseille Euromediterranée, plan for the phase one of the Helsinki Western Docklands and plan of the Shanghai's LuJiaZui Finance District.



cess of the operation, and that might also been considered as other a factor of town integration.

(9) - The Bjorvika operation, in Oslo, was also considered in the winner proposal of the ideas competition “The City and the Fjord, Oslo year 2000”, above-mentioned, although in this case the area is publicly owned, being occupied by the port, a main-road system and the railway infrastructures.

The area hasn't be developed immediately due to the lack of financing, although in 1993 it has started the planning of a main infrastructure investment which will allow the future renewal operation: the last link of the main road east-west, in tunnel, connection the 1990 tunnel under the City Hall in west to the 1995 tunnel through the Ekeberg Hill in the east.

In 2000 four propositions were presented to a contest, contributing to the achievement of new ideas and the clarification of concepts for future planning, continuing the process of progressive participated planning of the area.

The renewal plan hasn't still achieved a final version.

The operation, to be realised through different phases, will start with the construction of the new opera house, although it isn't yet defined the final plan for the area or decided the new allocation for the containers dock, which will be occupied.

Public private partnership is the financing philosophy defined for the operation, being the key city infrastructures (transfer of the container port to other area, east-west road tunnel and railway transformation) the public sector activity and the building construction the private.

In the Bjorvika operation the investment on the above-mentioned key city's infrastructures will certainly be the main factor of town integration, in this case resulting from public promoted planning and not from a coordinated process of private planning.

(10) - The Victoria's New Waterfront, in Melbourne, occupies 220 hectares of land and seven kilometres of waterfront, adjacent to the city CBD; as the expansion and modernisation of the port moved down stream, larger city-front port areas become available for redevelopment.

Being a delta area, the renewal operation of the Victoria's New Waterfront is based on a conceptual planning and design framework, which embodies ten urban design principles and seven urban design goals.

The programme combines permanent housing for 15.000 inhabitants, commerce, leisure and entertainment, retail, commerce, service and hi-tech industries areas, adjacent to the city centre, with high quality public spaces, understood as an integrated continuous part of Melbourne.

Its implementation is organised through the definition of several precincts, which should be progressively implemented in five stages until 2020.

The departure process philosophy is that a “viable, sustainable place of design excellence can only through a strong partnership involving the Docklands Authority, precinct developers, the City

of Melbourne, government agencies, and a range of other interested parties” [Melbourne Docklands Victoria’s New Waterfront Report, July 2000]

The participation of the private sector is seen, by the Docklands Authority, as a key form of guarantee this objective, therefore defining urban design principles and seven urban design goals. Integration and design excellence are the main goals of the just started operation (the stadium and two connections to the city are done), which previews itself town integration as one of the principles of urban design: principle 2 – responsive to Melbourne. This principle assumes that the operation should respond to the Melbourne needs, also searching for a geometrical continuity of the existing street patterns – the new area is to be a part of the city and not an autonomous urban area.

In the Victoria’s New Waterfront, site integration is also a measure of town integration, as previewed on principle 3 – responsive to the site.

Main infrastructure investments consider: (1) a city integrated transport network, and; (2) public and private transport strategies; also being a factor of town integration.

(11) - The Lu Jia Zui district, in Shanghai, corresponds to the creation of the new international financial district of China; being previewed approximately 4.200.000 square meters of construction, $\frac{3}{4}$ being offices buildings, in the 1,7 square kilometres, corresponding to 108 high-rise buildings, the highest having 350 metres.

The Lu Jia Zui CBD integrates the large urban operation of the Pudong New Area, a 522 square kilometres developing area in the south-east part of Shanghai, separated from the city through the Huangpu River.

The Pudong New Area includes several districts, such as the Lu Jia Zui CBD, the new profound waters port, the new airport, an economical export area, a tax free zone, a new hi-tech technological district, being the housing planning integrated in several districts and also developed in some residential districts.

The Lu Jia Zui CBD is an enormous offices state programme, which concentrates some public companies and banks and tries to capture private investment.

The intervention, land ownership, construction, public space and infrastructure investments are entirely governmental; town planning was developed by the Shanghai Pudong New Area Planning & Research Institute, under the authority of the Pudong New Area Developing and Planning Bureau.

This renewal operation, on a former harbour, industrial and residential areas, is a vital strategic project not only of the city and the region, corresponding to a national objective, the intension of creating a new finance centre in Asia, supported by the developing economy of China.

In fact, the Lu Jia Zui district and the Pudong New Area are large scale urban development projects articulated with the general town planning and management of the city, which induced the extension of the new building typology, the high-rises, to the entire city.

Not questioning the criteria for the general city development, the established process under which the government develop-

ment corporation manages the project, in articulation with the city of Shanghai, is a factor of town integration.

Other factors of town integration in the Lu Jia Zui operation are:

- (a) The main infrastructure investments on the city's scale, such as the road-tunnels under the river, the main urban connections and the public transport system, providing good accessibilities to the new centrality of Shanghai;
- (b) The new public equipments on the area, some exceptional, which become new architectonic symbols of the city – e.g., the TV tower;
- (c) The integration on the complementary large-scale main infrastructures transformation in the Pudong New Area, such as the new airport, the new port and others, which are conceived as an inter-dependent urban system.

(12) - The Bund waterfront renewal, in Shanghai, developed during the 1990's, is a public space intervention in the symbolic waterfront facade of the city.

The bund was originally the location of the British open port, established in 1843 after the opium war.

Progressively, from the middle 19th century to the 1920's, a group of high architectonic value buildings was constructed in the front facade of the Bund, most of them being banks and international enterprises Shanghai's headquarters.

The operation was firstly previewed in the beginning of the 1990's, as a public space renovation, included in the Historical City Centre Plan.

The renovation considered the increase of the land areas and was developed during two phases, the first finished in 1992 and the second in the middle 1990's.

Its first phase corresponds to a 711 meter-long and 7 meter-high flood prevention wall protection against high tides, seen once in a century, supporting a 15 meters elevated platform of public space, which is separated from the 10 lines traffic lanes by a tree-lined boulevard.

The public space renovation simultaneously resolved the traffic congestions, doubling the car circulation capacity, and created more generous pedestrian areas, mixed with a small size green structure, although its elevation brook the existing direct relation between the Bund architectonic facade and the river.

The increasing of the car traffic parallel to the river also generated a strong barrier between the waterfront and the historical city.

The operation was integrally public planned, projected and constructed.

The construction of the wall flood protection in Bund waterfront renewal, having direct consequences to the entire existing city, was therefore a factor of town integration; being the key link of this factor the action of the municipal planning and engineering services.

(13) - The South Boston Waterfront operation, in its planning phase, is located in an old harbour and industrial area, being separated from the Boston's Financial District by the Fort Point channel and of the

Logan airport, in the north, by the main interior port's fluvial channel.

In this operation, the Massport (Massachusetts Port Authority) continues the renewal of the Commonwealth Pier, on World Trade Centre area, realised in the middle 1980's, which had inadequate infrastructures of transportation functioned as a barrier.

Started in 1998, the key action of the renewal operation is the investment on the new underground accessibility infrastructures, the Central Artery/Third Harbour Tunnel and the South Boston Piers Transit way.

The Central Artery/Third Harbour Tunnel Project tries to answer three main objectives to the city of Boston: (1) the new tunnel under the port duplicates the road accessibility from the city centre to the airport and allows for its continuation to north, without having to cross the downtown; (2) the elevated highway which crosses the downtown becomes an underground tunnel and allows for the creation of system of linear parks, connecting the Financial District to the waterfront, and; (3) the new highway serves the South Boston Waterfront, conferring it an enormous centrality.

This infrastructure is complemented by the South Boston Piers Transit way, a road tunnel that connects the South Boston Waterfront to the inter-modal terminal of transports of South Station, at the Financial District.

A previewed enlargement of the Logan airport, managed by the Massport, the new Federal Courthouse, the new Boston Convention and Exhibition Centre, offices and an hotel also integrate the operation.

The South Boston Waterfront operation might become a paradigm of the integration of the renewal of harbour areas in the context of modernization of main city's infrastructures and as coordinated action in the new systems of accessibilities, although it is development and managed by the Port Authority.

The development of the described mainly city's infrastructures, within the area of intervention, is the key factor of town integration of the operation.

Other smaller aspects, such as the program of the operation, might also have some importance to the city, although certainly at an inferior level of importance.

(14) - The Port Vell operation, in Barcelona, being an intervention not developed by the municipality but by the Puerto Autonomo de Barcelona, is a case where some factors of urban integration can be observed.

The Port Vell is a 54 hectares area in the oldest part of the port, developed since the 17th century, which had become obsolete, as the port progressively grew to south into the Llobregat River and allocated there their new and modern facilities.

Its remodelling and development project was determined by its nature as a seaport, by its location by the city's historical centre and by the facilities that could be reclaimed [Puerto Autonomo

de Barcelona, in: *Waterfront, una nueva frontera urbana*, 1991, pp.33].

The project was lead by an urban development corporation created by the Port Authority, the Port 2000.

Having existed in the past pressure for an intensive building in this area (e.g., the Ribera Plan, developed in 1967 by the land proprietary's), the 1980's represented a different town planning reality for the city, with the democratic institutions trying to articulate the regional proposals of the Plan General Metropolitan from 1976 and the intermediate scale of the «proyectos urbanos», developed by the municipality.

In 1982, in articulation with the municipality, the Architect Manuel de Solá Morales was charged of the project for the urban design of de Moll Bosch I Alsina.

This realisation, together wit the nomination of the city to host the 1992's Olympic Games and other occurrences lead to the re-alisation of a much more ambitious project [Joan Allemany, 1998, pp.259].

The basic philosophy of the project consisted on having all the administrations in agreement, including the municipality, the regional authority and the government ministry, a fact that would be the basis for a comprehensive urban integration.

Therefore, the Pla Especial del Port Vell, approved by the port in 1988 and by the regional authority in 1989, was a part of coordinated group of operations of different types developed in various parts of the city, such as:

- (a) The construction of the Cinturon, a beltway that passed through the city limits and waterfront;
- (b) The operation of the Olimpic Games, covering four different sites of the city, connected by the new road infrastructure;
- (c) The definition of new centrality areas as a measure to create alternatives to the congestion in city centre and the "monumentalisation" of the peripheries as a measure a improve the quality of those neighbourhoods, and;
- (d) The use of the waterfront "new" attractive spaces for the leisure of the people all over the city.

All these initiatives had a common basic philosophy, which passed by the improvement of the quality of the public spaces through its design.

The Port Vell renewal was therefore a part of a general concept for the city, being articulated with the confining waterfront spaces.

Its original proposal, based on the articulation of the Moll de la Fusta and of the Moll de la Barceloneta around the Pla de Palau suffered later a change, when the port decided to accept a proposal by an American development corporation enterprise, which proposed the creation of a complet "fun city" in the Moll d'Espanya.

Apart from that change, the operation full field its town planning goals, the continue pedestrian connection of the Poble Nou olimpic





Aerial perspective and views of four case-studies: perspective of the Parque das Nações in Lisbon and views of the areas of intervention of Bjorvika in Oslo, Victoria's New Waterfront in Melbourne and Port Vell in Barcelona.

area to the Ramblas and the historical city centre through the Barceloneta urban beach and the Port Vell, offering new leisure public spaces, new offices, and new equipments for the city and for the Ciutat Vella, opening the city to the sea.

The understanding of the project as a part of a larger concept for the city, combined with its development, as a coordinated action of town planning, was a factor of town integration in the operation, allowing for the full field of the above-mentioned urban objectives.

The integration of the city's main road infrastructure, the Ronda Litoral, in the Moll de la Fusta, can also be considered as a factor of town integration.

3.3. THE MAIN FACTORS OF TOWN INTEGRATION IN THE URBAN RENEWAL OF HARBOUR AREAS.

From the previous case-study analysis some conclusions might be established.

The first and important one regards the financing and managing process of these operations: different interventions in different realities adopt specific forms in the development of their operations, meaning that one can't establish some processes types as factors of town integration.

As we saw, opposite integration success and quality urban areas resulted from both the private and the public urban planning and management of the renewal operations.

State ideology, local specific democratic legislation and practices, attributions of central government and municipal institutions and their coordination, local town planning habits and methods, society's culture and different forms and demands of public participation define specific local contexts under which those operations are developed.

On the contrary, one must recognise that each local town planning reality has its local current practices on urban management, having specific forms of public participation and public services coordination.

As an example, both the success operation of Aker Brygge in Oslo and the disaster of the Canary Wharf operation, in London, resulted from private development enterprises, although in the two cases the process of public participation was different.

Also as an example, both the Margueira renewal operation in the south river bank of Lisbon and the Victoria's New Waterfront in Melbourne are public central government initiatives, although an opposite attitude to local and other institutions determined its failure and non-realisation or its success.

The Dutch operations of Rotterdam and Amsterdam or the Helsinki Western Harbour operation resulted from the city's initiative, all having acceptable standards of town integration.

Non-coordinated, isolated or autonomous town planning actions in these renewal operations tend to be factors of town segregation, in the cases that they don't fail before start and have the capacity to be implemented.

Anyway, some common occurrences might be defined as general factors of town integration, being synthesised bellow:

(1) THE CRITERIA UNDER WHICH IT WAS SELECTED THE HARBOUR AREA AS A PRIORITY FOR URBAN RENEWAL, being or not include in the realization of some special event, such as universal and world exhibitions, sports events, cultural events and others.

In the selection of the site the general context of city development supports the decision, which might corresponding to:

- (a) An intentional creation of new development tendencies and basic infrastructures generated by the operation, considered at the town planning level;
- (b) The intention of enlarge the dynamic effect of the local operation to the existing urban areas in its surroundings, inducing their transformation;
- (c) The creation of new centralities and the connection between different existent parts of the city, or;
- (d) The understanding of the new waterfront space as the excellence urban space for the development of some specific program, including national level programmes as the new CDB of Shanghai or regional and city's programmes as aquariums, conference centres and others.

(2) THE INCLUSION OF THE OPERATION IN THE MASTER AND IN THE STRATEGIC PLANNING OF THE CITY, therefore being a part among others of a general coordinated and global conceptual idea for the city and its development, integrating the passive and normative planning of the master plans with the operative actions of these special operations, including other simultaneous renewal operations in other parts of the city.

In some cases the master plan is no longer the most decisive instrument of urban planning in the development of cities, being the «proyectos urbanos» most efficient forms of bottom-up urban intervention.

(3) THE RENEWAL OPERATION AS AN OPPORTUNITY FOR THE COORDINATION OF DIFFERENT MAIN CITY'S INFRASTRUCTURE INVESTMENTS, independently from the different forms of coordination adopted in each case.

Several renewal operations allow for the articulation of different urban planning actions, frequently managed separately by different urban management companies, integrating specific infrastructures.

Port's transformations, the underground city railroad, the metropolitan train, the supplying infrastructures companies, the regional and city's main road system, the public transport systems, environmental infrastructures, new bridges and others, approached in a general urban vision, are included frequently as initiatives of the intervention, sometimes extending the range of its proposals largely outside the specific area of the operation, therefore clearly constituting a city's action.

Not having the value of a conclusion, another factor might be considered as a method that tends to contribute for town integration: the participated maturation of the proposals for the renewal of the harbour area.

The public debate for some time of the possible forms and methods of the renewal operation, in which main city concepts, urban design patterns, site characteristics and new ideas are progressively considered as hypothesis and juggled by the participated process, tend to assure a probable most mature and appropriate

final solution, as we saw on some examples, such as the Kop van Zuid in Rotterdam, the Expo98 in Lisbon, or both the Aker Brygge and the Bjorvika operations in Oslo.

The Canary Wharf operation in London also verified this large period of public debate, but it wasn't a continuous maturation of the concepts and methods, once suddenly a new strategy was introduced, breaking with the work done until the moment.

4. THE FACTORS OF SITE INTEGRATION.

Contrarily to the town integration, extensive key bibliography on the renewal of harbour areas covering specific subjects of site integration does not exist; therefore not justifying it's over viewing.

The next lines will directly develop some case-study analysis, trying to identify which might be the general factors of site integration.

4.1. *FACTORS OF SITE INTEGRATION IN SOME CASE-STUDIES.*

(1) - Contrarily to what could be expected, in the Expo98 renewal operation, in Lisbon, site integration was not a reality.

As we saw the area was a special planning area, developed by a public capitals development agency, being the accessibility infrastructures and the detail plans for the areas in the surroundings developed by the municipality.

As a result, the areas around did in fact benefited from:

- (a) The improvement of the accessibilities to the area;
- (b) The extension of the network of efficient public transport systems to the area, and;
- (c) The proximity to the new centrality, its services, equipments and high quality public spaces.

Apart from these indirect benefits, which don't regard intentionally site integration and result from the immediate proximity to the area of intervention, the existence of such rigid limits on planning jurisdiction, having different urban management institutions, lead to a segregation on the public spaces, comparing both sides of this limit.

In fact, if one can consider exemplary the public space design inside the area of the operation, on the contrary, immediately outside of its limits on the other side of the train line, it decreases substantially, having no relation at all with the interior areas.

One of the factors that might strongly contribute to this might be the non-continuity of the public spaces outside the area of intervention, due to the maintenance of the existing elevated tramline, which constitutes an effective barrier between the area of intervention and the surrounding areas.

The crossings of the tramline, elevated bridges (over the elevated tramline) for car and pedestrian traffic aren't comfortable pedestrian spaces, therefore not stimulating site integration.

Anyway, the fact that the main transversal structural roads have continuity to the intervention area might be considered as a factor of site integration, once it represents the attempt to mix the new urban structures in a larger and continuous urban tissue.

In reality, it did happen for car traffic, although in terms of pedestrian circulation and permanence it didn't, having been created segregated spaces.

(2) - The 1998 experimental plan for the renewal of the harbour area of the Lisnave Company, in the south part of Lisbon, being, as we saw above, an example of absolute inexistent town integration, tries to establish some measures of urban design in order to achieve some site integration – although the general philosophy for the project didn't allow for larger initiatives.

In fact, being the intervention area at the level of the river, and the existent urban areas 30 metres above, the attempt to dissolve the aggressive existent barrier caused by the relieve through passages within the buildings and public elevators was a possible form to break the urban barrier; this initiative might be a factor of site segregation.

The proposal of complementary urban design initiatives in the surrounding public spaces, in order to improve its public space physical quality and integrate those spaces in a continuous of high-qualified urban areas was certainly another factor of site integration.

The continuity of the main road system of the area through the connection of the two urban structural axes was another priority of the proposal, also being a factor of site integration.

The 1998 experimental plan for the renewal of the harbour area of the Lisnave Company is an example of how in fact the two levels of urban integration are independent one from each other, and how town integration regards to the general planning of the city and site integration refers to the site urban design proposals.

(3) - The Marseille Euroméditerranée urban project adopts an original form of site integration, once the proposed operations, including the ones in the eastern harbour territories, are disseminated through the city, covering a transversal axe perpendicular to the coast.

The group of operations doesn't cover, therefore, a concentrated territory, neither having a precise regular limit.

In the urban project of Marseille, including the harbour's territories operations, the disseminated form of contact with the existing urban tissues not included in the interventions presents a higher capacity of urban integration, once one can't clearly establish a perceptible frontier for those two areas.

Not being able to identify those territories, it is very difficult to identify a segregation of spaces at the local level.

A second factor of site integration is the urban design transformation in the area of the Littoral, being the road infrastructure transformation, through the construction of a tunnel, and the new profile for the local traffic, creating high quality public spaces and large comfortable pedestrian areas, a form of suppress an urban barrier and allow for an easier contact with the port territories and the waterfront.

(4) - In the Kop van Zuid operation, in Rotterdam, the plan proposes the continuity of the southern main road axes, the west-east and the two south-north roads, one of them crossing the west-east main road.

With this proposal, the plan assures the continuity between the existing urban areas and the new ones, therefore being a factor of site integration.

On its north limit, the same technique of urban design was difficult to be extensively done, once the river is wide and can only be crossed through important investments on bridges, as the Erasmus Bridge.

When the area of the plan meets existing urban tissues, both on its east and west sides, the solution adopted is to connect the two areas through an urban street, parallel to the existent buildings. The building difference is dissolved through the public space design of these streets and the use of vegetation and two lines of trees – one the eastern limit.

(5) - In the Eastern Docklands operation, in Amsterdam, site integration wasn't a main priority, once the area of intervention is almost exclusively island and peninsulas on the IJ River.

Those new urban areas are entirely surrounded by the river, being the main question, therefore, to solve its connection to the water.

The different peninsulas have adopted different proposals in the connection to the water, allowing to the area to have variety – from the houses over the water on the Entrepot-West, to the houses on the water of the Borneo Island, and to the public streets and squares over the water on the KNSM and Java islands.

The southwest limit of the area of intervention is a main railroad line which connects the Central Station to the Airport and partially, on the east-west part of this limit, although a canal.

This key infrastructure has become a strong barrier separating the area of intervention from the city centre and can only be crossed on specifically located points, enlarging the distances to the city, therefore, partially segregating the intervention area from the city. Being geographically near the centre, no natural continuity was possible to establish with the surrounding neighbourhoods.

It is an eccentric urban area (which would always be due the fact of be constituted by islands and peninsulas), accentuated by the separation from the city through the railroad barrier.

This form of site segregation isn't so important as in other operations once the dominating program is residential and its eccentric situation is, after all, its character.

(6) - As we saw above, it is very difficult to identify factors of urban integration in the Canary Wharf operation, in London.

Regarding to site integration, once again the operation was turned into itself, being the main accessibilities the only contacts with the surroundings.

Those infrastructures characteristics are exclusively functional circulation (the train and the car); its public space design isn't concerned with the pedestrian connection to the surrounding areas. In fact, in Canary Wharf, the connection to the City by car and train is the main concern, from which depended the real-state success of the operation.

The surrounding areas, still to be developed, weren't particularly considered in its design, once the area should function autonomously, having its own restaurants, services and shopping.

(7) - In the Western Docklands operation, in Helsinki, a similar situation to the Eastern Docklands of Amsterdam occurred, being Ruoholahti and Jatkasaari (phases 1 and 2) a peninsula and Munkkisaari (phase 3) another.

Looking now only at Ruoholahti (phase 1), the only one realised at the moment, the area connects to three different existing urban areas (an industrial area in the north-west, a park in the north and the city in the north-east), and to the Jatkasaari area (phase 2), being the rest waterfront limits.





Site views of four case-studies: Kop van Zuid in Rotterdam, the Bund in Shanghai, Canary Wharf in London and Aker Brygge in Oslo.

The connection to the industrial area and to the park is an urban avenue, which corresponds to the access of the city centre to the west, having the same urban design characteristics and quality as its interior streets, but an higher intensity of traffic once its is a main regional road-infrastructure.

The connection to the city is more difficult due to: (a) the stranguation that happens in the local, having several streets confluent, and; (b) the double tramline, the first serving the harbour area of Jatkasaari, still in function, and the second running through the perimeter of Helsinki, both crossing over the small area of contact of Ruoholahti with the city.

This tramline, which justifies its crossing by bridge in the northern main avenue, functions today as a barrier, being located exactly in the most difficult point to be solved by its urban design. Some alignment continuities established by the new streets with the existent ones, in its connection to the city at east, are in fact only visual alignments, once they are interrupted by the tramline barrier, not allowing pedestrian and public space design continuities.

(8) - The Aker Brygge operation, in Oslo, having as we saw some characteristics of town integration, has different attitudes to the areas in the surrounding, depending on whose we consider.

In fact, its connection to the City Hall Square through the waterfront is natural and continuous, profiting from the west-east tunnel constructed under this space and from the quality of the public space design of its surface.

The integration in the northwestern existing city is resolved through an urban avenue, the Munkedamssveien, which its curve form accompanies the limit of the phase 4 of the operation.

On the northwest side of this street there are the existent building and its south side the new ones, being its public space object of high quality design.

The integration of Aker Brygge into the north-eastern existing urban area and into the west harbour area is not resolved until today, seaming that an urban project is still missing to complete those urban connections, being he second one more difficult once it corresponds the traditional urban program of connect new city with existing segregating port areas.

(9) - The Bjorvika operation, in Oslo, still in phase of planning, as we saw, presents already several site integration problems, which are subject of intensive debate.

The area is a bay, being surrounded by:

- (a) The renaissance city to the west, having some old harbour storehouses in between, interrupting some existent linear streets;
- (b) To the northwest, the square of the Central Station, needing some public space design;
- (c) To the north, existing urban areas, separated by the huge group of tramlines of the Central Station;
- (d) To the north-east, the new urban park, including some small scale group of buildings and the ruins of the old Viking City, and;
- (e) To the east, the large group of road and train infrastructures, followed by the Ekeberg Hill.

The final plan has the difficulty of connect all those different areas with the program for the site of intervention, being the new

structure and the options to lead with the infrastructures barriers, specially to the north, main tasks of its urban design.

(10) - At the Victoria's New Waterfront, in Melbourne, site integration is also a measure of town integration, as previewed on principle 3 – responsive to the site.

As we saw, integration and design excellence were the main goals of the operation, being the search a geometrical continuity with the city's existing streets on the east a major urban design goal, which is clear in the final plan.

As the new area was supposed to be a continuous part of the city, 5 car and pedestrian crosses were proposed over the large tramlines concentration, prolonging the existing linear main streets.

The maintenance of some harbour / industrial activities and of main accessibility infrastructures on the south and west side of its limits meant that difficult site integration could be done in these directions.

The public space design of the areas immediately on the other side of the intervention, some industrial areas between the city and the tramlines, is still an open question, which might contribute for a better site integration.

(11) - At the Lu Jia Zui operation, in Shanghai, site integration in a minor question, once the entire limits of the area of intervention are: (a) the waterfront of the large Huangpu River, and; (b) other new urban areas, corresponding to other operations of in the Pudong New Area.

The urban design proposals include a major structural avenue, which connects by tunnel the old city to the Central Green Park, the heart of Lu Jia Zui, and continues through the Century Boulevard until the Century Park, the central park of the Pudong New Area.

The Century Boulevard is the structural axe that organises the urban design of Lu Jia Zui and connects it with the Pudong New Area, being an example of what also happens in other urban axes, which continue outside Lu Jia Zui in existent and new residential and industrial areas.

Apart from these concepts of urban design, the destruction of some Chinese traditional two floors and high-density residential areas that existed behind the harbour and industrial areas, justified due to healthy reasons and to liberate the lands for the project, might be questionable in terms of site integration, therefore justifying the un-existence of urban areas in the surroundings to be integrated in.

The large areas of quality public space and the well-designed buildings existent within Lu Jia Zui continue outside the area of intervention in a continuous form, not allowing for the perception of its limits, therefore being a factor of site integration.

(12) - At the Bund waterfront renewal, in Shanghai, the 7 meter-high flood prevention wall protection against high tides, having technical reasons to be done, constitutes in fact barrier that brooked the existing direct relation between the Bund architectonic facade and the river.

Being a 15 meters elevated platform of public space, it doesn't have contact neither with the water, neither with the existent high-quality architectonic facade and buildings, loosing a large part of

what could be the full potential of the waterfront space.

This fact is accentuated by the maintenance of the 10 lines traffic lanes (created in the operation), which also constitute a strong barrier that can only be crossed by uncomfortable pedestrian tunnels.

The adopted urban design solution accentuated in fact the longitudinal barriers (the elevation and the car traffic), segregating the waterfront from the existing city instead of reinforce the transversal comfortable pedestrian connections of the city to its waterfront.

In this case, the urban design proposals them-self are a factor of site segregation, corresponding to an urban politic under which engineering problems such as floods and traffic capacity are the main priority, relegating the public space design and the pedestrian causes to a secondary plan.

(13) - Regarding site integration issues, the South Boston Waterfront operation won't be considered for the case-study analysis developed at this chapter.

The reason is the fact that the operation is still in a planning phase, being the site design relegated to a second period of the plan, after defined the main town planning decisions presented above.

(14) - At the Port Vell operation, in Barcelona, complementarily to the factors of town integration mentioned above, also some factors of urban integration can be observed.

The very sensible connection of the former harbour area with the existing building facade of the city was done having in consideration integration objectives, due to:

- (a) The main longitudinal road infrastructure was object of a special urban design project, by Manuel de Solá Morales;
- (b) The public spaces in these areas were conceived as a hole, from the building facades to the waterfront, creating an unitary image;

Therefore, being a factor of site integration.

The searching for a continuity of the main existent urban axes, as the Ramblas, through its prolongation in the water (the Ramblas del Mar) was also a factor of site integration, although it was more a conceptual idea than a reality, once it isn't an immediate continuation.

The physical continuity of different waterfront interventions itself might also be assumed as a factor of site integration, although its conceptual and abstract planning proposal being a factor of town integration.

Finally, the creation in the intervention area of an answer to specific deficits of the urban areas in the surroundings, in this case the Ciutat Vella, being created large public spaces and specific equipments that the area needed, might also be considered as a factor of site integration.

4.2. THE MAIN FACTORS OF SITE INTEGRATION IN THE URBAN RENEWAL OF HARBOUR AREAS.

Comparatively to the main factors of town integration, a first conceptual difference can be established, being a characteristic of the factors of site integration observed in the analysed operations of renewal of harbour areas:

Site integration regards directly to the urban design, being the factors of site integration options or proposals made by the urban design projects;

Although, the conceptual abstract definition of site integration as an objective for the operation might be considered a factor of town integration, independently of the final success of this measure after the plan implementation.

A note must be done at this moment regarding the previous conclusion: the case-study analysis focused exclusively on town planning and physical issues, not observing economical, social and other interventions on problem areas of the surroundings, which could exist parallel to the operation.

Those non-physical types of proposals could also constitute factors of site integration, once they try to integrate excluded or dislocated populations in the society, therefore being social and economical actions of integration.

The question is, therefore, to identify which common urban design occurrences might be established as factors of site integration.

From the case-study analysis developed above, it could be identified as the main factors of site integration the following ones:

(1) THE BENEFIT OF THE SURROUNDING AREAS FROM INVESTMENTS REALISED IN THE RENEWAL OPERATION, DUE TO ITS PROXIMITY AND EASY ACCESS, such as:

- (a) Its benefit of the improvement of the accessibilities to the area, being also directly served by these new infrastructures, such as the extension of the main road system;
- (b) The extension of the network of efficient public transport systems to the intervention area, such as light urban train, subway or regional trains, and;
- (c) The proximity to the new centrality created inside the intervention area and from its services, equipments and high quality public spaces.

All these three possible benefits of the existent urban areas from the renewal operation depend directly on the existence of easy pedestrian access from the surrounding areas to them, factor without which the geographical proximity has no effective application to the reality, therefore not allowing to these areas to benefit from these aspects.

These indirect benefits might in some cases not correspond to intentional site integration urban design measures, but they can in fact exist even not programmed, being real benefits.

(2) THE APPLICATION OF EQUAL PUBLIC SPACE DESIGN QUALITY CRITERIA TO PUBLIC SPACES INSIDE THE AREA OF INTERVENTION AND TO THE NEAREST PUBLIC SPACES OUTSIDE THIS AREA, as a form of guaranty a continuity between those areas and dissolve the perception of the physical limits of the operation.

The existence of public space continuity between the operation and the surrounding areas is a technique to dilute the contrasts between those areas, therefore diluting possible existent segregation between them.

This urban design measure also means the extension of the urban politic of high quality public spaces to the surrounding areas, not confining the intervention exclusively to the perimeter of the operation.

(3) THE GENERAL SUPPRESSING OF THE EXISTENT OR PREVIEWED URBAN BARRIERS, allowing for an effective connection between the area of intervention and the areas on the other side of the urban barrier.

The existence of longitudinal urban barriers is a very frequent occurrence in harbour areas, once these areas were normally limited and closed areas, which needed to be served by good road and train accessibilities to connect to its hinterland and to be economically viable.

Being closed longitudinal areas, its perimeter was also the appropriate location for some urban main infrastructures, which very frequently duplicate the harbour accessibility infrastructures, such as:

- (a) The closing of city's beltways by the water, parallel to the historical consolidate urban areas, which were frequently constructed benefiting from the creation of land extensions on the waterfront as part of the development of the harbour areas;
- (b) The regional train lines that were created in the end of the 19th century and in the beginning of the 20th, having its departure station by the city centre, also benefiting from harbour's land extensions on the waterfront, and;
- (c) The existence of relieve abrupt barriers with accentuated level differences is another type of possible urban barrier, which might not allow for the connection of the existent urban areas, above, to the renewed harbour area, below, possibly on artificial land extensions to the water.

The urban design proposals lead with these urban barriers is a key action regarding site integration, once it will define the possibility of create frequent continuities to the existent surrounding areas or, on the contrary, maintain the barrier between those two urban areas, therefore contributing to special segregation.

(4) THE EXTENSION OF THE EXISTENT MAIN URBAN AXES TO THE AREA OF INTERVENTION, integrating the structure of the new urban area as part of the existent urban tissues.

The urban design search for continuities and alignments with existing urban spaces represents the attempt to mix the new urban structures in a larger and continuous urban tissue, therefore being a factor of site integration.

Those existent urban axes could be from one of following two types:

- (a) Transversal main avenues and streets, which penetrate into the territory starting in an existent longitudinal axe, located immediately outside the former harbour area;
- (b) Longitudinal urban main axes, which were interrupted or deviated from its natural course due to the special needs of the former harbour area, including interior avenues and waterfront pedestrian axes.

(5) THE CONSIDERATION OF THE ALIGNMENTS OF FACADES OF THE EXISTENT URBAN AREAS IN THE DEFINITION OF THE STRUCTURE OF THE NEW URBAN AREA, benefiting from its possible architectonic value and creating specific urban design solutions, such as:

- (a) Public spaces esplanades, as a form to directly connect the existent urban facade with the waterfront, or;
- (b) The duplication of the alignment of facades as a form to

create a new street or avenue, which should be object of public space design as a technique to integrate the two groups of facades.

(6) THE RESOLUTION, INSIDE THE AREA OF INTERVENTION, OF SPECIFIC NEEDS OF THE SURROUNDING URBAN AREAS, APART FROM THE NORMAL QUOTE OF URBAN EQUIPMENTS THAT IS AFFECTED TO THE AREA.

Those specific needs of the surrounding areas might regard to historical areas, illegal urban extensions, extensive or dated residential areas, being the specific needs large high quality public spaces and green areas, and public equipments such as schools, health services, sport and leisure facilities and others.

Those needs are intentionally solved in the urban design proposals, not corresponding the quote of city's equipments, public spaces and others that the new urban area has to fulfil as part of its program.

5. CONCLUSION: FROM THE FACTORS OF INTEGRATION TO THE CONSTRUCTION OF A METHOD OF ANALYSIS OF THE URBAN INTEGRATION IN THE OPERATIONS OF RENEWAL OF HARBOUR AREAS.

The developed town planning theoretical definitions, regarding the urban integration on the operations of renewal of harbour areas, consists, at a first level, the synthesis of a group of practical experiences, having the value of questioning the subject for future professional activity.

Although assuming that each case is a single case, having its own physical characteristics, urban management processes, town planning practices, architectural aesthetics and technologies, site characteristics, and other specific aspects, some general questions can be identified on a comparative analysis of other case studies.

That might certainly be one of the utilities of the conceptual framing presented on the lines above.

But the definition of the two levels of urban integration and the identification of the specific factors of town integration and factors of site integration has also an academic potential.

It consists on the possibility to use these conclusions as a starting point for the elaboration of a general theory for the evaluation of the urban integration in these operations.

Evaluating, not as a simple evaluation act, but having the objective of develop comparative analysis as: (1) a form of better identify the problems, learning from other experiences, and; (2) a technique for include urban integration as one of the criteria of an urban design analysis of the city's proposals, developed in those operations.

To understand which new city are we creating today on those new strategic urban areas, by using extensive comparative analysis, the use of disciplinary techniques is a must.

As larger it is, comparative analysis must simultaneously be a more objective and measurable technique; it will cover more examples, therefore, not allowing to achieve such a deep knowledge on each one.

In this perspective, the main question might be: which questions shall we do to each case study?

And that is the moment for the factors of urban integration to be useful.

By defining at each level the factors of integration, one could

establish a method, based on a selected group of questions, which could be used to verify the urban integration in an operation of renewal of a harbour area, and compare it with others.

The concept could be that, by the analysis of some previously defined criteria, one could evaluate the urban integration of different operations and compare the obtained results.

Each defined factor of town integration and of site integration would be, therefore, a criterion to be verified in each operation of renewal of a harbour area.

That means, if we would want to analyse the urban design proposals of a case study and include in the analysis the relation of the new urban area with the existent city, one should verify, separately:

(1) The town integration of the operation, by verifying the following occurrences:

1.1. The criteria under which the harbour area was selected for urban renewal, being or not include in the realization of some special event, and the reasons that lead to the decision – to induce urban development to that part of the city or to the surrounding areas, create new urban centralities, to integrate main infrastructure investments, to help re-convert the surrounding areas, to create new waterfront leisure spaces for the population as part of an urban network of leisure/environmental/cultural/touristy spaces, and others -, and the fulfil of those urban objectives.

1.2. The relation of the urban planning of the operation with the town planning of the city/region, by verifying its coordination with: (a) the regional, master and strategic planning of the city; (b) other operative urban actions on the city – other «proyectos urbanos».

1.3. The coordination of the renewal operation with city's major infrastructure investments, such as accessibility, public transport, environmental and basic infrastructures, justifying the opportunity for its realisation, even if those investments are done by different urban management entities.

1.4. How did it existed public debate and public participation in: (a) the major decision of realising the renewal operation, and; (b) the progressive maturation of urban design ideas, concepts and physical proposals, progressively achieving an agreement on some aspects of the operation (although this 4th criterion might not have direct implication on the town integration of the operation).

(2) The site integration of the operation, by verifying the following occurrences:

2.1. The benefits of the surrounding areas from investments realised in the renewal operation, due to its proximity and easy access, such as the improvement of accessibilities and public transports, infrastructure benefits, and the access to the services provided in the new central area.

2.2. The existence of pedestrian continuity with equal high-qualified public spaces, inside the area of intervention and in the areas immediately outside, guarantying that the new urban area isn't a segregated space.

2.3. The suppressing of existent or previewed urban barriers,

such as main road and train accessibilities, both for port and city's use, or relieve barriers, allowing for physical continuity between the new urban area and the existent surrounding areas.

2.4. The logical extension of the existent main urban axes into the area of intervention, having pedestrian and car comfortable continuity, both the transversal and the longitudinal axes.

2.5. The consideration of the existent alignments of facades in the new urban structure, benefiting from possible architectonic or heritage value by the creation of: (a) public space esplanades, connection again those facades to the water, or; (b) new urban axes integrating the existent facades within the new built structure.

2.6. The intentional answer, inside the area of intervention, to specific needs of the surrounding areas, apart from the quote of equipments normally affected to a new urban area, such as un-existent high-quality public spaces and green areas, health services, schools, sport and leisure facilities, and others.

The verification of these criteria should be comprehensive and should attend to the specific characteristics of the operation, considering the existent situation and town planning practices in its evaluation.

This means urban integration can not only be measured simply by the fulfilling of these criteria, but it also should consider the relative importance of each criteria in each case study.

This technique should be able to be applied to different realities, therefore being general, but should also consider that the interpretation of a physical and planning reality implies the understanding of its major site characteristics and history, of the process developed and of the town planning reality of the region.

Finally, it should be mentioned that urban integration analysis is only a part of what might be the development of a general technique to the analysis of the urban design proposals in the operations of renewal of harbour areas.

The operations themselves, its conceptual idea of city, its physical proposals, its quantification, its program, will also integrate this analysis, and will be object of similar previous technical definition, as part of a methodology developed by the author to support its research on the subject.

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